OIB - DC-8 10/28/14 Science Report

Aircraft:
DC-8 (See full schedule)
Date:
Tuesday, October 28, 2014
Mission:
OIB
Mission Location:
Antarctica
Mission Summary:

F07 Foundation Lakes 01

Accomplishments

- Low-altitude survey (1,500 ft AGL) over the Foundation Ice Stream and Support Force Glacier.
- ATM, albedo, KT-19, snow, Ku-band, MCoRDS, gravimeter, and DMS were operated on the survey lines.
- Ramp pass at Punta Arenas airport after takeoff at 2,000 ft AGL.
- Collected calibration data for MCoRDS at 9,000 ft AGL.
- Satellite tracks: none.
- Repeat Mission: 2012

Instrument	Operated	Data Volume	Instrument Issues/Comments
ATM	yes	38 GB	None.
CAMBOT	yes	54 GB	None.
DMS	yes	65 GB	None. Recorded 7,313 frames.
Snow Radar	yes	325 GB	None.
Ku-band Radar	yes	325 GB	None.
MCoRDS	yes	1.4 TB	None.
KT-19	yes	10 MB	None.
Albedo	yes	2.2 GB	None.
Albedo camera	yes	300 MB	None.
Gravimeter	yes	2 GB	None.

Mission Report (Michael Studinger, Mission Scientist)

Today's flight was a dh/dt repeat of the identical 15 October 2012 flight. We occupied straightened approximations of the Foundation and Support Force ice streams, and crossed several subglacial lakes in their upper portions. We also collected high-altitude gravity data across the Ronne Ice Shelf en-route to the survey area.

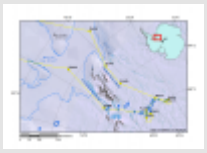
The two areas with weather suitable for science missions today were Hull Land and the Foundation Ice Stream area. Both, the GFS and AMPS model indicated low clouds over Hull Land that were also visible in the satellite imagery. The Foundation Lakes mission was lower risk from a weather point and we decided to launch. The satellite image showed a layer of low clouds over Foundation Ice Stream between waypoints FLA08 and FLA09. Both models predicted that this layer would dissolve before we reach the survey area which was not the case. We were not able to underfly the thick layer of low clouds and lost data from the optical sensors between these two waypoints. After turning behind waypoint FLA09 we encountered the expected sky clear conditions for the remainder of the survey line.

LiDAR data collection started 10/28/2014 16:58 UTC and ended at 19:28 UTC. In total we collected 2.5 hours of LiDAR data.

We connected to 3 classrooms today, reaching 51 students. On today's flight we were joined by NASA's Chief Scientist, Dr. Ellen Stofan and the U.S. Ambassador in Chile, Michael Hammer.

Images:

Figure 1: Today's trajectory in yellow.



Read more

Submitted by:
Michael Studinger on 10/28/14
Related Flight Report:

DC-8 10/28/14

Flight Number:
150112
Payload Configuration:
Operation IceBridge 2014
Nav Data Collected:
Yes
Total Flight Time:
11.5 hours
Submitted by:
Frank Cutler on 10/29/14
Flight Segments:

From:	SCCI	**To:**	SCCI
Start:	10/28/14 12:07 Z	**Finish:**	10/28/14 23:34 Z
Flight Time:	11.5 hours		
Log Number:	158003	**PI:**	Michael Studinger
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Comments:	Purpose of Flight:OIB 2014 Science Flight ? Foundation Lakes 01 at 1,500 ft AGL Aircraft Status: Airworthy Sensor Status: All instruments operated Significant Issues: None Accomplishments: Takeoff at 301 12 07 47 Land 301 23 34 18 After takeoff accomplish a calibration ramp pass at 1216Zand 1800?agl. Hold altitude and heading after ramp pass for 2 min and then climb to to transit altitude of FL330. Start descent at 1553Z, level at 9000? agl at 1606Z continue descent at 1611Z and level at 1500? to 2000? agl at 1617Z. 1. 1620Z ? 1656Z climb to 5000? agl due to clouds below along this track. 2. 1656Z ? 1729Z clear of clouds so descend to 2000? agl 3. 1741Z ? 1745Z 4. 1745Z ? 1756Z 5. 1758Z ? 1805 Z 6. 1818Z ? 1846Z 7. 1846Z ? 1902Z 8. 1902Z ? 1928Z Climb to FL410 for transit to SCCI. Planned events: Continue science flights out of Punta Arenas, Chile		

Flight Hour Summary:

	158003
Flight Hours Approved in SOFRS	300
Total Used	292.1
Total Remaining	7.9

158003 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
10/06/14	150101	Science	1.2	1.2	298.8
10/07/14 - 10/08/14	150102	Science	5.2	6.4	293.6
10/08/14	150103	Science	3.7	10.1	289.9
10/13/14	150104	Transit	10.4	20.5	279.5
10/13/14	150105	Transit	3.2	23.7	276.3
10/16/14	150106	Science	11	34.7	265.3
10/18/14 - 10/19/14	150107	Science	11.9	46.6	253.4
10/20/14	150108	Science	11.7	58.3	241.7
10/23/14	150109	Science	11.8	70.1	229.9
10/25/14	150110	Science	11.4	81.5	218.5
10/26/14 - 10/27/14	150111	Science	11.9	93.4	206.6
10/28/14	150112	Science	11.5	104.9	195.1
10/29/14	150113	Science	10.9	115.8	184.2
10/31/14	150114	Maintenance	2.8	118.6	181.4
11/01/14	150115	Maintenance	3	121.6	178.4
11/02/14	150116	Science	10.9	132.5	167.5
11/03/14	150117	Science	11.1	143.6	156.4
11/05/14	150118	Science	11.4	155	145
11/06/14	150119	Science	11.1	166.1	133.9
11/07/14	150120	Science	10.9	177	123
11/08/14	150121	Science	11.4	188.4	111.6
11/10/14	150122	Science	11.2	199.6	100.4
11/11/14	150123	Science	11.2	210.8	89.2
11/13/14	150124	Science	11.4	222.2	77.8
11/14/14	150125	Science	11.5	233.7	66.3
11/15/14	150126	Science	11.2	244.9	55.1
11/16/14	150127	Science	11.1	256	44
11/21/14	150128	Science	11.2	267.2	32.8
11/22/14	150129	Science	10.8	278	22
11/24/14	150130	Transit	2.9	280.9	19.1
11/25/14 - 11/26/14	150131	Transit	11.2	292.1	7.9

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.